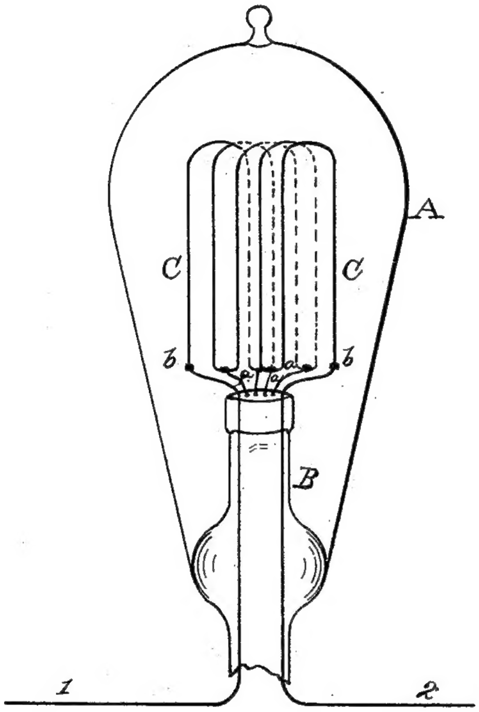
(No Model.)

T. A. EDISON.

INCANDESCENT ELECTRIC LAMP.

No. 353,783. Patented Dec. 7, 1886.



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UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF MENLO PARK, NEW JERSEY, ASSIGNOR TO THE EDISON ELECTRIC LIGHT COMPANY, OF NEW YORK, N. Y.

INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 353,783, dated December 7, 1886.

Application filed November 9, 1882. Serial No. 76,384. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. EDISON, of Menlo Park, in the county of Middlesex and State of New Jersey, have invented a new and useful Improvement in Incandescing Electric Lamps, (Case No. 512,) of which the following is a specification.

In the manufacture of incandescing electric lamps it may be sometimes desired to construct a lamp of exceedingly high resistance. A convenient way of doing this is to take a considerable length of very fine fiber—such as flax, ramie, or similar vegetable material—and coil or loop it into a compact shape and then carbonize it, the material forming upon carbonization an exceedingly fine flexible filament of carbon. The coils or loops are of course at some distance apart. In a lamp of this kind it is desirable that intermediate supports should be provided for the coils or loops between the leading-in wires, as otherwise such coils or loops would bend and get out of shape and perhaps touch each other.

My invention therefore consists in providing intermediate supports for the coils or loops of the fine flexible carbon filament made as described.

My invention is preferably carried out by attaching to the lower portion of each coil or loop, preferably by the electro-deposition of copper, a wire the other end of which is sealed in the glass of the inner stem or wire support of the lamp.

My invention is illustrated in the accompanying drawing, wherein A is the inclosing-globe of an incandescing electric lamp, and B the inner stem or wire support.

C C is the incandescing conductor, consisting of a fine filament of flexible carbon bent into a number of loops, as shown; or the filament might be coiled into compact shape, if desired. The radiating surface and resistance of the filament are so proportioned that the entire filament will give the candle-power desired. Each loop has electroplated to it a wire, *a*, the other end of which is sealed in the glass of stem B, whereby all the loops are supported. The ends *b b* of the filament are electroplated or otherwise attached to the leading-in wires 1 2.

Instead of the arrangement shown a number of loops or coils of flexible carbon may be electroplated or otherwise attached together in series, intermediate supports being provided, as before.

What I claim is—

1. The coiled or looped carbon filament of an incandescent electric lamp provided with intermediate supports for the coils or loops, substantially as set forth.

2. In an incandescent electric lamp, the combination, with the coiled or looped carbon filament, of a number of wires attached to the coils or loops and all sealed in the glass stem of the lamp, substantially as set forth.

3. In an incandescing electric lamp, the long and fine flexible carbon filament made in one piece, in combination with leading-in wires connected to the ends of the same, and intermediate supports, substantially as set forth.

This specification signed and witnessed this 3d day of November, 1882.

THOMAS A. EDISON.

Witnesses:

H. W. SEELY,
EDWARD H. PYATT.